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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,951	08/31/2001	Samir Kumar	D/A1037	2032

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EXAMINER

SOOHOO, TONY GLEN

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 01/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/943,951	KUMAR ET AL.	
Period for Reply	Examiner	Art Unit	
	Tony G Soohoo	1723	
<i>-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --</i>			
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.			
<ul style="list-style-type: none"> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). 			
Status			
1) <input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>15 October 2002</u> .			
2a) <input type="checkbox"/> This action is FINAL. 2b) <input checked="" type="checkbox"/> This action is non-final.			
3) <input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.			
Disposition of Claims			
4) <input checked="" type="checkbox"/> Claim(s) <u>1-33</u> is/are pending in the application.			
4a) Of the above claim(s) <u>29-31</u> is/are withdrawn from consideration.			
5) <input type="checkbox"/> Claim(s) _____ is/are allowed.			
6) <input checked="" type="checkbox"/> Claim(s) <u>1-4, 11, 13-21, 26 and 28</u> is/are rejected.			
7) <input checked="" type="checkbox"/> Claim(s) <u>5-10, 12, 22-25, 27, 32 and 33</u> is/are objected to.			
8) <input type="checkbox"/> Claim(s) _____ are subject to restriction and/or election requirement.			
Application Papers			
9) <input type="checkbox"/> The specification is objected to by the Examiner.			
10) <input type="checkbox"/> The drawing(s) filed on _____ is/are: a) <input type="checkbox"/> accepted or b) <input type="checkbox"/> objected to by the Examiner.			
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).			
11) <input type="checkbox"/> The proposed drawing correction filed on _____ is: a) <input type="checkbox"/> approved b) <input type="checkbox"/> disapproved by the Examiner.			
If approved, corrected drawings are required in reply to this Office action.			
12) <input type="checkbox"/> The oath or declaration is objected to by the Examiner.			
Priority under 35 U.S.C. §§ 119 and 120			
13) <input type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).			
a) <input type="checkbox"/> All b) <input type="checkbox"/> Some * c) <input type="checkbox"/> None of:			
1. <input type="checkbox"/> Certified copies of the priority documents have been received.			
2. <input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____.			
3. <input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).			
* See the attached detailed Office action for a list of the certified copies not received.			
14) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).			
a) <input type="checkbox"/> The translation of the foreign language provisional application has been received.			
15) <input type="checkbox"/> Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.			
Attachment(s)			
1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)		4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____	
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)		5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)	
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4,6</u> .		6) <input type="checkbox"/> Other: _____	

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-28, and 32-33, drawn to a blending tool, classified in class 366, subclass 326.1.
 - II. Claim 29-31, drawn to a method of blending toners, classified in class 430, subclass 137.21.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case in the instant case, the product as claimed can be used in a materially different process such as other blending applications such as blending paint or polymer reaction processes..
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Examiner Chapman (cl430) and Richard Spooner on 11-4-2002 a provisional election was made WITH traverse to prosecute the invention of Group I, claims 1-28, 32-33. Affirmation of this election must be made by applicant in replying to this Office action. Claim29-31 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The scope of claim 17 can not be positively determined or points out structure in a narrative fashion which does not particularly point out and distinctly claim the subject matter such that one may positively determine what applicant regards as the invention. Claim 17 and parent claim 14 points out that the device is an "improved blending tool". However part (a) of 17 points out in a narrative operative description that the invention ("the improved blending tool") "is mounted inside a blending chamber having a wall" and

(c) a partition of the leading edge is positioned millimeters from the wall". Further limitation to the blending tool itself has not been claimed.

Since the invention does not positive point out that a chamber and wall is part of the blending tool, issues to the relative placement of the "blending tool" to the wall is immaterial to the patentable distinction of the blending tool itself. Further evidence is shown in part claim 17 part (a) whereby there is a structural distinction of the "blending tool" and that of a "blending chamber", thus the claimed invention of claim 17 is not a combination of elements, but that only of the blending tool itself.

Thus details of the position of the leading edge of the blending tool to a wall during the use of the invention obscures what applicant regards as the invention whereby it may be misunderstood for a desire of further claims to patent protection to the inclusion of a chamber wall and the positioning of the "blending tool invention" with the wall of the chamber.

If patent protection is further directed to the inclusion of a chamber wall and the positioning of the "blending tool invention" with the wall of the chamber is desired, the preamble of claims 14 and 17 would not correspond to the such a combination. A new set of claims or a change of the preamble should point out that the invention is a combination of both a blending tool and a chamber.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claim 1, 3, 4, 13, 18, 20, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Brumagim 2235604.

Brumagim, figure 2-3, teaches Brumagim teaches a blending tool having a shank 3 a riser 4, 4, having a outside surface forward region angle outward from the plane perpendicular to the long axis of the shank 3 of less than 30 degrees or preferably between 5 and 10 degrees, see page 2, column lines 67 through column 2 line 3, angle alpha α . With regards to claims 4 and 21 note that the riser 4 is planar .

Brumagim discloses with a particular end point of 10 degrees which is within the scope of the claims of the angle alpha α being between 10-16. Thereby, it is deemed that a 10 degree embodiment of Brumagim's device, as disclosed, would anticipate applicant's claimed invention of the angle being between 5 and 10 degrees.

With regards to claim 13 issues to the position of the device to a wall of a chamber is immaterial to the patentable distinction defined by the claims whereby the invention is directed to the blending tool itself and not to a combination and use of the tool in a chamber having a wall.

11. Claims 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Marsh 87691.

Marsh teaches a blending machine having a lower shank and raiser B which as seen in figure 1 appear to have a height portion which is longer than the diameter of the

vessel A, thereby the ratio of the height to diameter of the diagonal as shown by the drawings are more than 0.20, 0.25 and 0.27.

With regards to claim 17 issues to the position of the device to a wall of a chamber is immaterial to the patentable distinction defined by the claims whereby the invention is directed to the blending tool itself and not to a combination and use of the tool in a chamber having a wall.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-4, 18-21 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brumagim 2235604.

Brumagim, figure 2-3, teaches a blending tool having a shank 3 a riser 4, 4, having a outside surface forward region angle outward from the plane perpendicular to the long axis of the shank 3 of less than 30 degrees or preferably between 5 and 10 degrees, see page 2, column lines 67 through column 2 line 3, angle alpha α .

With regards to claims 4 and 21 note that the riser 4 is planar .

With regards to claims 1-4, Brumagim discloses all of the recited subject matter as defined within the scope of the claims with the exception of the angle alpha α being between in the range over 10 degrees and between 16 degrees (claims 1, 18); 14 –15.5

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degrees (claims 2, 19); the entire outer surface being at the angle of over 10 and between 16 degrees (claims 3, 20).

The MPEP 2144.05 states:

I. OVERLAP OF RANGES

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) (The prior art taught carbon monoxide concentrations of "about 1-5%" while the claim was limited to "more than 5%." The court held that "about 1-5%" allowed for concentrations slightly above 5% thus the ranges overlapped.); *In re Geisler*, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997) (Claim reciting thickness of a protective layer as falling within a range of "50 to 100 Angstroms" considered prima facie obvious in view of prior art reference teaching that "for suitable protection, the thickness of the protective layer should be not less than about 10 nm [i.e., 100 Angstroms]." The court stated that "by stating that suitable protection is provided if the protective layer is about 100 Angstroms thick, [the prior art reference] directly teaches the use of a thickness within [applicant's] claimed range."). Similarly, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.).

II. OPTIMIZATION OF RANGES

A. Optimization Within Prior Art Conditions or Through Routine Experimentation

Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%).

See also *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

B. Only Result-Effective Variables Can Be Optimized

A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or

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workable ranges of said variable might be characterized as routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result-effective variable.). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (prior art suggested proportional balancing to achieve desired results in the formation of an alloy).

In this case, Brumagim teaches specific values of end point ranges of less than 30 degrees and points to a specific lower value of 5 degrees in the teaching of the range 5 to 10 degrees.

Accordingly, since, it has been held that in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); and where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art, In re Aller, 105 USPQ 233; And also it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art, In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), it is deemed that it would have been obvious to one of ordinary skill in the art to modify the angle of the riser member 3, 3, to any optimized value in the range of between over 10 to 16 degrees, or between 14 and 15.5 degrees so as to optimize the fluid flow of the agitator for mixing.

With regards to claim 28, Brumagim discloses the claimed invention except for the positioning of the riser 4 leading edge being within 6mm. Since such a modification would have involved a mere change in the size of a component of the diameter of the shank such that the riser is closer to the wall of the chamber 10 and a change in size is

generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). It would have been an obvious matter of design choice to increase the shank diameter such that the vertical riser leading edge is close to the wall in the order of 6mm such that the device may operate fully across the entire diameter of the chamber including near the chamber walls.

14. Claims 11 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brumagim 2235604 in view of Brandenberger 330555

Brumagim discloses all of the recited subject matter as defined within the scope of the claims with the exception of the riser member having a hole flow port (claim 11), and the port being at the leading edge (claim 12).

Brandenberger teaches that holes may be provided to a vertical riser in order to increase a more through agitation and mixing in the vessel, page 2, lines 15-20.

In view of the teaching that apertures in a blade may be provided to increase a more through agitation and mixing in the vessel, it is deemed that it would have been obvious to one of ordinary skill in the art to provide for the vertical risers of Brumagim holes to increase a more through agitation and mixing in the vessel

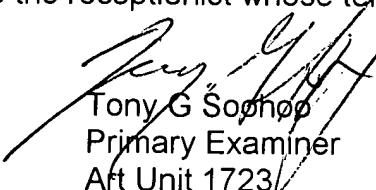
Allowable Subject Matter

15. Claims 5-10, 12, 22-25, 27, 32 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following disclose shank and risers: Steinmetz 61772, Cormack 570662, Laub 76206, Riley 50958, Lombard 29893, Knudsen et al 2498125, Kyle 1019055, Green 307111, Dixon et al 3166302, Evinger 445883, Mellor 349854, merit 291906, Russell 961802, Halloway 131611, Fisher 1116255, Stout 1184394, Beran 185432, Pick 2179271, Franz et al 2445741, Pennock 216885, Slywka 4091457, Applebaum 2179246, Bradley 95075, Shallock 2379380, Dutton 274473.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G Soohoo whose telephone number is (703) 308-2882. The examiner can normally be reached on 7:00 AM - 5:00 PM, Tues. - Fri.. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Tony G. Soohoo
Primary Examiner
Art Unit 1723

tgs